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<b>(51) International Patent Classification <sup>6</sup> :</b> C08L 1/26, C08K 5/10, 5/11, 15/00 A61K 6/00, A61F 13/00		<b>A3</b>	<b>(11) International Publication Number:</b> WO 95/05416 <b>(43) International Publication Date:</b> 23 February 1995 (23.02.95)
<b>(21) International Application Number:</b> PCT/US94/09305 <b>(22) International Filing Date:</b> 19 August 1994 (19.08.94) <b>(30) Priority Data:</b> 08/109,125 19 August 1993 (19.08.93) US 08/109,273 19 August 1993 (19.08.93) US <b>(60) Parent Applications or Grants</b> <b>(63) Related by Continuation</b> US 08/109,125 (CIP) Filed on 19 August 1993 (19.08.93) US 08/109,273 (CIP) Filed on 19 August 1993 (19.08.93) <b>(71) Applicant (for all designated States except US):</b> CYGNUS THERAPEUTIC SYSTEMS [US/US]; 400 Penobscot Drive, Redwood City, CA 94063 (US). <b>(72) Inventors; and</b> <b>(75) Inventors/Applicants (for US only):</b> BIEGAJSKI, James, E. [US/US]; 625 Cutwater Lane, Foster City, CA 94404 (US). VENKATRAMAN, Subbu, S. [US/US]; 1040 Colorado Avenue, Palo Alto, CA 94303 (US). SCOTT, Ann, M.		<b>[US/US];</b> 1031 Dale Avenue, Mountain View, CA 94040 (US). <b>(74) Agents:</b> KENNEDY, Bill et al.; Morrison & Foerster, 755 Page Mill Road, Palo Alto, CA 94034-1018 (US). <b>(81) Designated States:</b> AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LT, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG), ARIPO patent (KE, MW, SD). <b>Published</b> <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments</i> <b>(88) Date of publication of the international search report:</b> 23 March 1995 (23.03.95)	
<b>(54) Title:</b> WATER-SOLUBLE PRESSURE-SENSITIVE MUCOADHESIVE			
<b>(57) Abstract</b> <p>Water-soluble pressure-sensitive adhesives include a water-soluble polymer that is made tacky at room temperature by addition of a water-soluble plasticizer that is miscible with the polymer. Suitable polymers are solid at room temperature; and have a hydrophilicity as measured by water uptake greater than about 25 %; they are liquid at room temperature and have a boiling point higher than about 80 °C. The adhesives according to the invention may conveniently be provided in dry film form. Preferred water-soluble pressure-sensitive adhesives of the invention adhere both to mucosal surfaces and to a variety of materials that may constitute a part of a device or prosthesis to be held in a body cavity that has a mucosal lining. Also, a laminated device for the controlled release of a substance within a mucosa-lined body cavity includes the substance dissolved or dispersed in either or both of a water-soluble pressure-sensitive adhesive layer and optionally one or more water-soluble polymer layers. Also, devices for administering a substance over an extended time for relief of sore throat or cough, or for administering a breath freshening agent, particularly a mint odorant, include a water soluble polymer film layer containing the active ingredient, and a water soluble pressure sensitive mucoadhesive layer.</p>			

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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US94/09305

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(6) :C08L 1/26; C08K 5/10, 5/11, 15/00; A61K 6/00; A61F 13/00

US CL :523/111,120; 524/43,312; 424/435; 428/40, 355

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 523/111,120; 524/43, 312; 424/435, 449; 428/40,355

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

APS: POLYVINYL PYROLIDONE, GLYCEROL, PRESSURE SENSITIVE ADHESIVE

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US, A, 4,529,748 (WIENECKE) 16 July 1985, see entire document.	1,2,7-8
Y	US, A, 4,713,243 (SCHIRALDI ET AL) 15 December 1987, column 2, lines 30-60 and column 3, line 10 to column 4, line 38.	1,2,7
Y	US, A, 5,166,233 (KUROYA ET AL) 24 November 1992, see entire document.	1,2,7
Y	US, A, 4,373,036 (CHANG ET AL) 08 February 1983, see entire document.	1,2,7
Y	US, A, 5,158,825 (ALTWIRTH) 27 October 1992, column 1, lines 45-68 and column 2, lines 19-55.	1,2,7

☒ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex.

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*P* document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search	Date of mailing of the international search report
03 OCTOBER 1994	13 FEB 1995

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## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US94/09305

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US, A, 4,910,247 (HALDAR) 20 March 1990, column 3, line 20 to column 4, line 29.	1-4
A	US, A, 5,064,717 (SUZUKI ET AL) 12 November 1991, column 3, lines 33-54 and column 10, lines 21-33.	1-8
X	US, A, 4,292,299 (SUZUKI) 29 September 1981, columns 2-5.	9-18,24-49
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Y		19-23
Y	JP, A, 62-59513 (KYUKYU YAKUHHN KOGYO) 28 February 1990, pages 2-12.	19-23